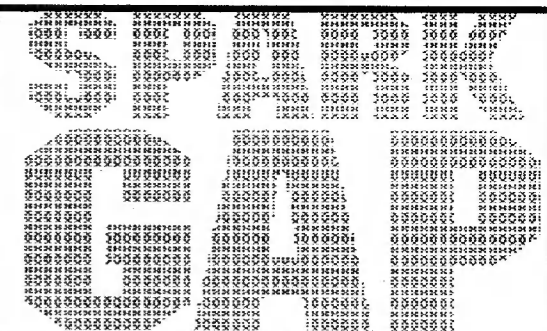


MIDSTATE AMATEUR RADIO CLUB

MARC



Ham Radio News From Central Indiana
Volume 5 No. 11
November 1993

OCTOBER VE TESTING UPGRADES

Brian Davis		Indianapolis	Tech
Vicki Hartwell		Butlerville	NC Tech
Robert Hays	N9RDT	Worthington	General
Deena Huntsman		Shelbyville	NC Tech
Robert Huxley		Indianapolis	NC Tech
Michael Parks	N9PUO	Columbus	Advanced
Vernie Parton *	N9PUA	Whiteland	General
Maynard Payne		Shelbyville	NC Tech
Ollie Purvis *	N9OLR	Indianapolis	Advanced
David Reneau *	N9PPV	Indianapolis	Advanced
Dean Strietelmeier	N9VDS	Indianapolis	Tech
Cynthia Tatlock		Seymour	NC Tech
LeRoy Thompson *	N9QVL	Indianapolis	General

* indicates member of MARC

typical of any exposed ham equipment Mother Nature can quickly damage a good setup.

We still have several dozen of the cups to sell. To quote super cup salesman Jack Parker, NT9J, "they make great Christmas gifts. You'll also need one for your ham shack and one for work. If you don't drink coffee, put pencils in them."

Everyone who purchased a cup at the October meeting was given a free cup of coffee. We even had donuts on hand. The sales of the cups and the "sales pitch" will continue until all of the cups have found a good home.

You can purchase additional cups from Jack, NT9J or from Mac, NV9K. It's the Mac & Jack Official Midstate ARC cups sales. Call Jack at 881-0817 to reserve yours now. Additional cups will be available at the November meeting for the unbelievable price of \$5.50. Again, to quote Jack, "I DON'T CARE ABOUT MAKING MONEY, I JUST LOVE TO SELL CUPS."

CUP SALES

Our thanks to everyone who purchased one of the official Midstate ARC coffee cups. Everyone seems to be pleased with the cups and the new logo design. As you know the cups were designed to promote club spirit and



to make money for the on going tower fund. When we moved to a higher profile location on the WTTV tower we also accepted the financial burden of paying professional prices to maintain the feedline and antenna.

All proceeds from the sales of the cups will go toward financing tower maintenance and special club functions. We don't anticipate needing any antenna or feedline repairs in the near future. But,



R.A.C.E.S. BADGES

In an effort to update the RACES ID badges local members were asked to report to the county EOC October 23rd. New ID pictures were taken and background information packets were filled out. Each member must undergo a police background check before being sworn into the RACES organization.

If you did not complete the proper forms or get your picture taken for the new ID cards contact assistant RACES director Vernon Gill, N9QBO at 738-4575.

Unlike ARES, the RACES organization comes under the scrutiny of the county emergency management director Sam Williams. As a volunteer extension of the Indiana State Emergency Management Agency (SEMA), each member must pass the security check before being sworn into RACES.

Each member receives an ID card and an emergency automobile ID placard. The state of Indiana carries liability and workmen comp insurance on each member in the case of injury during a RACES exercise.

According to Sam Williams our goal is to have 25 or 30 RACES members trained in first aid, CPR, emergency communications and basic search and rescue techniques.

Membership in RACES is open to all qualified ham operators in Johnson County. Prospective members can contact Vernon Gill N9QBO for more information.



DISASTER DRILL

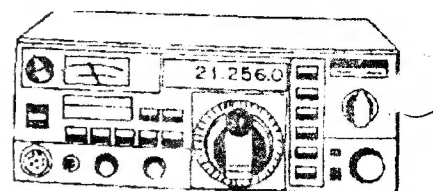
Saturday October 23rd was a disaster in Indiana. From Evansville to Ft. Wayne simulated natural disasters struck, forcing local and state Emergency Management agencies to take action. Anderson had a nursing home explosion and fire while Howard county experienced a tornado. Evansville experienced an earthquake. According to official reports all of the emergency volunteers in each community responded in a swift professional manner.

In Johnson county RACES members responded to the EOC to man the HF radio and the packet station. Over a dozen ham radio operators stood by throughout the morning to pass emergency traffic.

The only official message came at 6:55 a.m. when Bob LeGrange, N9SIU, called Jack, NT9J, on the 146.835 Mhz repeater. Bob who is a member of the Mid-State ARC is also a part of the state's Forward Response Team. He was operating aeronautical mobile from a National Guard helicopter at 1700 feet heading for Evansville. Parker said he copied the message and relayed it to the state EOC at the Government Center in downtown Indianapolis.

Johnson county Emergency Management director, Sam Williams, was in Anderson all day to observe their operation. He said he came away with lots of notes on how to more effectively handle a local disaster.

Williams plans to schedule a meeting with RACES team members to discuss his findings.



FORUM ON HF

Yes, there is life below 10-meters! That was the message conveyed at the October meeting of Mid-state ARC. Many thanks go to our panel of experienced hams who reflected on what they liked about HF radio.

Heading up the panel of experienced radio operators was Bob Doles, WB9AYB; Pat Pyle, W9PSD; Lendal Cook, W9LNX; and Keith Cohoon, K9PDI. This was the first in a series of planned discussions covering HF radio, DX, and the low bands in general.

According to Jack Parker NT9J, the club activities director, "I wanted to whet the appetite of everyone who has never worked anything from 12 thru 160 meters. I'd like to see some of our new No-code techs take up the challenge to upgrade to at least the general class license."

Jack says future programs will cover the types of equipment and why you need radios with all the bells and whistles.

Program ideas for future club meetings are always welcome. Let us know what you want to hear about. All suggestions can be addressed to Jack or any of the club officers..SK





COVERING THE FLOOD

An otherwise quiet day last saturday developed slowly into an active R.A.C.E.S. net as flooding in the Johnson County area began causing problems.

Joe KA9ZPA got things rolling with a call for help from the Whiteland Fire Department for volunteers to fill sandbags.

The Red Cross became involved with concerns for those evacuated from flooding areas. Lynn KB9VGW acted as a liason between the amateurs and the Red Cross headquarters. She also transported food and drinks to the workers in the field.

The net was transferred to the E.O.C. as Roy N9PFZ and Bill KA9ZMU coordinated communications using the resources of the Sheriff, Emergency management, and the D.O.T. The net continued until the rains ended and a tired and wet group of workers were able to go home.

Although this was never declared an OFFICIAL RACES net, it was a good example of the reason for having RACES and provided some insight into operating problems that occur.

One thing needed is to have at least two amateurs in the EOC

to make contact with the sheriff's dispatcher and as liason with Emergency Management. Also another 2 meter radio is needed so that ATV Weather Radar can be monitored during an emergency net. Plans for this are already in the works.

100 AND STILL COUNTING!

At the last club meeting in October we signed up our 100th member of the club! That single honor went to Louis Beam N9VKH.

Since that meeting several other new members have been added to the list: Sandor Bathory N9UIW, Ollie Purvis N9OLR, Keith Jordan N9UTJ, Ricky Brown N9VDX, and Brian Davis N9VKI. We are happy to welcome these amateurs to Mid-State!

STICKING OUR CHIN OUT...

The Amateur Radio News Service is once again soliciting club newsletters for its annual competition.

The contest, open to all Amateur Radio organizations (except general circulation magazines and professional journals), aims to recognize "performance in Amateur Radio Journalism."

Editors who submit one copy of any issue of their newsletter dated July 92 through December 93 will not only be entered in the competition but will receive a rating from the ARNS judges.

We are considering making an entry of SPARK-GAP to get

an evaluation and list of suggestions from the judges for improvement. We will keep you advised of the results.

NEW HAM BOOK

The Howard W. Sams Co. of Indianapolis has announced the publication of a new amateur radio book aimed at the Novice and Technician No-code Plus.

The book was written by Gordon West WB6NOA to reach the many who are interested in being licensed amateurs.

This new publication is now available at most electronic parts distributors nationwide.

TID BITS.....

*** At this writing Sandy WA9RDF was admitted to the Johnson Co. Hospital for surgery. We wish Sandy well and look forward to his cheerful voice on the 835!

*** Due to the regular sunday net overlapping the RACES net the Newline and Amateur News Weekly reports were transmitted the following night at 7 PM.

*** It appears that the plans to issue Club call signs has been put on a "back burner" pending the ARRL's request to be the only authority for issuing them.

*** Bob DeSpain WB5VZT has installed a phone pickup to his packet BBS that anyone with a computer and modem can access.

Details about the service and the phone number will soon be on his bulletin ID. One of the advantages of the service will be the availability to connect to WW9A in Columbus with more reliability. Plans are for this to be a full forwarding BBS.

NEW FCC FINE SCHEDULE

The FCC has released its updated schedule of fines that it can charge you for violating its rules. When you hear the new numbers you are definitely going to think twice before willfully breaking any Part 97 regulation.

We will start from the bottom of the monetary forfeiture list and work our way up to the big money. On the low end of its fine schedule, the FCC has added a new category called assorted minor violations. Breaking any of these carry a \$625 price tag. Failure to identify your station is now a \$1,250 offense and using unauthorized equipment can cost you five thousand greenbacks.

But that's nothing in comparison to the next three. Running excessive power, failing to respond to an FCC communication or operating on an unauthorized frequency now carries a ten thousand dollar price tag.

Transmitting material or words that are deemed to be legally indecent will cost \$12,500, being the source of malicious interference to another ham is now a \$17,500 monetary forfeiture and failing to permit the FCC to inspect your station now has a hefty \$18,500 price tag.

And if you really want to help reduce the national debt, just get caught sending out a false SOS. Misusing a distress or safety frequency or issuing a false distress

Here are the latest call signs issued by the FCC as of October 1, 1993:

	Extra	Advanced	Tech/Gen	Novice
0	AA0PB	KG0IU	N0YZG	KB0LMJ
1	AA1HM	KD1RL	N1QJK	KB1BEA
2	AA2PV	KF2RN	N2WRJ	KB2QPD
3	AA3FY	KE3KE	N3QKZ	KB3AZA
4	AD4LB	KR4EU	*	KE4GPS
5	AB5PX	KJ5QV	*	KC5DMN
6	AB6XG	KN6TA	*	KE6CGD
7	AA7ZE	KI7SG	*	KB7YZF
8	AA8MP	KG8EM	*	KB8PZH
9	AA9IN	KF9RR	N9VDL	KB9IVM

* All calls in these blocks have been assigned.

communication is now the kind of an activity that brings with it a twenty thousand dollar fine for each transmission. That's right. Twenty thousand dollars per violation!

And we should also remind you that these dollar amounts are what the FCC calls base fines. The recommended amount for a first offense. And while the commission does reserve the right to make downward adjustments if a violator cooperates and shows good faith, it can also raise the amount by up to 90 percent. This, if it can prove that the violation was intentional or that it caused substantial harm. Or, in simpler terms, you could be dinged as much as 33,250 dollars for something as simple as jamming an emergency call on a local repeater!

This is only part of a very long list of violations for which the com-

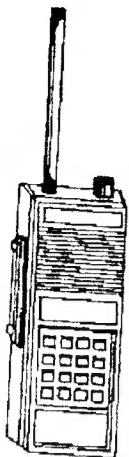
mission can issue monetary forfeitures. Most are aimed at commercial users of the radio spectrum, but the FCC notes that any can apply to personal radio users as well.

KIDS TALK TO SPACE

The hams aboard the Space Shuttle got a nice mention in an Associated Press story that went out Friday evening October 22. The AP noted that some of their very limited time was being used to talk to schools via ham radio.

Because of the length of the mission and the number and intensity of medical tests, NASA scheduled two half-days off for the seven astronauts.

The space hams squeezed in several ham radio contacts with U.S. schools from 178 miles high.



HT WARNING

*** WARNING to Alinco HT Users
and Other Users of Recharge-
able Batteries *** By Skip Dou-
glas, KA9DDN

This is a **SERIOUS WARNING**
to users of **RECHARGEABLE**
BATTERIES

The **CHARGING TERMINALS** on the batteries used on
at least two Alinco HT models present a **SERIOUS**
DANGER! The terminals are **NOT** diode-protected
against external short circuits!

Aaron Douglas, N9UBF, (my son) dealt with a
nearly disastrous situation on Saturday, October 30,
1993. His Alinco DJ-180T handheld 2-Meter radio was
on his bed along with items from his school bag.

One of these items was a common spiral-bound
notebook. Somehow the radio (or the notebook) was
moved around on the bed until the two charging
terminals of the battery were shorted by the wire
spring of the notebook. **WITHIN TEN SECONDS** the
battery case and the wire spring were so hot that the
paper of the notebook and the blanket surrounding it
were **BURNING!!**

The case of the battery pack was partially melted.
Fortunately, Aaron happened to notice the smoke and
small flame in time to extinguish it. I am absolutely
positive that if this had happened with nobody around,
my family and I would be without a home today.

Think how serious this could be if the battery were
inadvertently placed in your **POCKET** along with keys
or change. You would **NOT BE ABLE TO GET THE**
BATTERY OUT FAST ENOUGH to avoid a serious
burn!

As a result of our experience, I **HIGHLY**
RECOMMEND the purchase and use of a soft case for
the Alinco HT's.

Most Ni-Cad battery packs don't normally have
exposed charging terminals connected directly to the
batteries like the Alinco packs do. The Yaesu FT
23/73 family, for example, uses an internal diode to
block current flow if the charging terminals are
externally shorted.

To test whether or not your HT battery pack
charging terminals are safe use a volt meter to
measure voltage at the charging terminals of a fully
charged battery pack. If you read a voltage, you have
a dangerous situation like that described above.

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NOVEMBER PROGRAM

Paul Bohrer, W9DUU, is scheduled to be our guest
speaker at the November meeting. Paul helped organi-
ze an amateur TV network that was used during the
KKK rally in October.

Local and state officials asked the local hams to
provide amateur TV feeds from several vantage points
near the Indiana State House during the rally.

Be sure to be on hand for the 8 a.m. meeting
November 20th, as Paul brings you the behind the
scenes story.

Also a decision will be made on whether to include
the R.A.I.N. report as a part of the Sunday night net.

LET'S ALL GO TO THE MEETING!

PACKET NET

If you are into packet radio, here's good news! A new GL-NET/SIN network is in the final planning stages. The node will be located in Letts, Indiana. That's in Decatur county.

The node will tie the GL-Net (Tex-Net) used in the northern half of Indiana with the (Net/Rom) used in the southern half. It can be found at 144.93 Mhz. The statewide project is being coordinated by the Indiana Digital Experimenters Association, (I.D.E.A.).

Like any good ham radio project, funding is still needed to complete the project. Donations can be sent to I.D.E.A. in care of KG6XT here in Indiana.

Packet users are also beginning to notice a more efficient routing of messages in Indiana. A second 223 Mhz frequency has been added to help relieve the overcrowding of BBS packets running through the state.

According to Dan Dews KK9G, all packets north of I-465 on the northside of Indianapolis running east-west from Illinois to Ohio will be on one frequency while the southern part of the state will use the second frequency. Our thanks to Dan for this packet update.

NEW TEST FEE

The FCC has announced that effective January 1, 1994 the maximum VE test fee will be raised from the present \$5.60 to \$5.75.

The ARRL VEC will use the new fee schedule next January.



WAIT

WAIT

WAIT..

How long did you have to wait for your first amateur license? Many in our area have experienced periods from 4 weeks to 29 weeks in complete frustration!

The FCC has proposed temporary operating authority to unlicensed persons who pass the examination for a new amateur operator license.

The temporary operating authority would begin when the exam is passed and last until a full-term license is received from the FCC (Not more than 120 days).

This operating authority would not be available to anyone whose license has been revoked or suspended or who has been involved in other enforcement proceedings before the FCC.

Under the proposal, the commission also would reserve the right to cancel such temporary operating authority without a hearing if a need to do should occur.

Those operating under the proposed new rules would use call signs determined by the initials of their name and by their mailing address. The prefix for each such call sign would be WZ followed by a number indicating the volunteer examiner region.

The commission said it believes this system "would be useful to the Amateur community, yet practical to implement." The FCC also said it was making the proposal "to

better serve new amateurs and to increase productivity in the processing of license applications."

This proposal, assigned PR docket 93-267 was based on a petition for rule making made in July by the Western Carolina Amateur Radio Society VEC of Knoxville, Tennessee.

Not since the onset of the No-Code license has there been so much discussion on radio and on packet about the no-wait license! The ham community seems divided on the issue of an instant temporary call sign.

Some argue that some classes of licenses are already "instant." (Commercial Broadcasting, FAA pilot license, etc.)

What do you think?

BACK UP!

Just a reminder! Every good disaster plan has a backup plan! In

Johnson County the 146.835 repeater has been designated as the primary weather and disaster coordination frequency.

Make a note: If the VHF repeater should be knocked off the air the 442.975 repeater in Greenwood will be used as the backup. If you don't have UHF capabilities continue to monitor the 146.835 on simplex.

Through this cooperative effort all ARES and RACES members should continue to have reliable emergency communications.



THE MIGHTY J-POLE ANTENNA

In recent weeks several members of the club have discussed the J-Pole antenna and have inquired about getting the measurements. It seems that there are at least two types of J-Pole: One is made from 300 Ohm TV antenna lead-in and the other is made from copper tubing. If you want to make one from TV lead-in, you can find all you need from this page. (Thanks to John N9URB). If you want to build the Copper Cactus, you can find a diagram and list of materials on this page. However for complete instructions you should contact NV9K for a copy. (Thanks to Roy N9PFZ)

MATERIALS FOR THE COPPER CACTUS

10ft section 1/2" Copper water pipe.

1 T section 1 90-degree elbow

1 SO-239 or N-type Chassis mount

1 2-1/2" piece #12 copper wire.

1 Machine screw 1/8" dia 1" long with nut or pop rivet 1/8" dia x 1/2".

Propane torch, solder for copper pipe and flux.

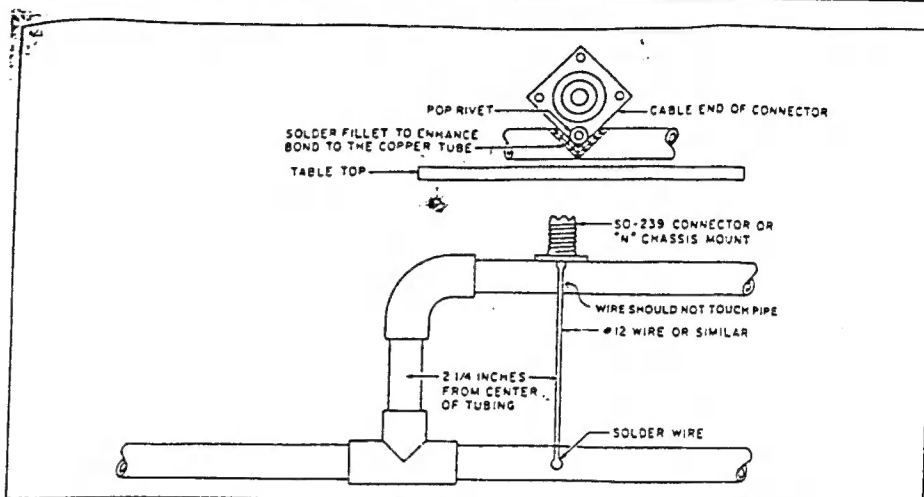


Figure 2. See the materials list. Before soldering, clean the joints and place the assembled antenna on a flat, noninflammable surface. Practice on some scraps of tubing and extra pipe joints if you're new to this. All dimensions are center-to-center.

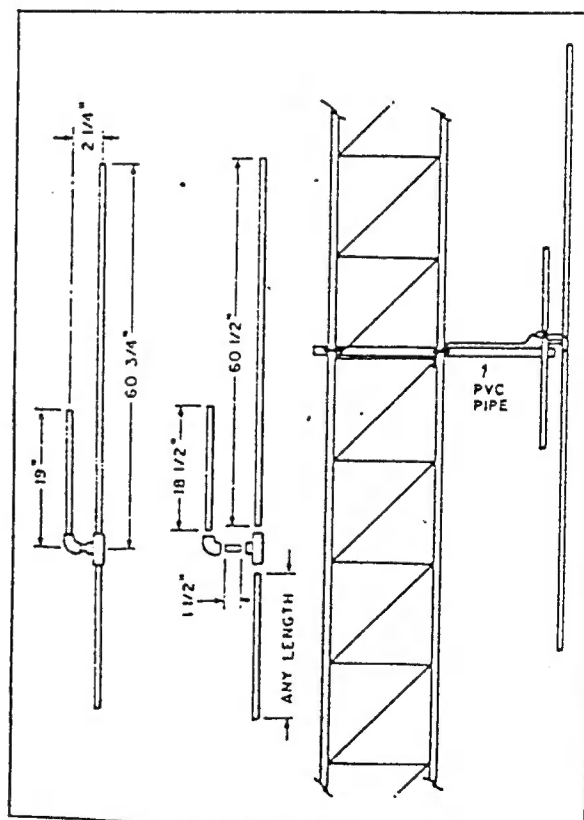
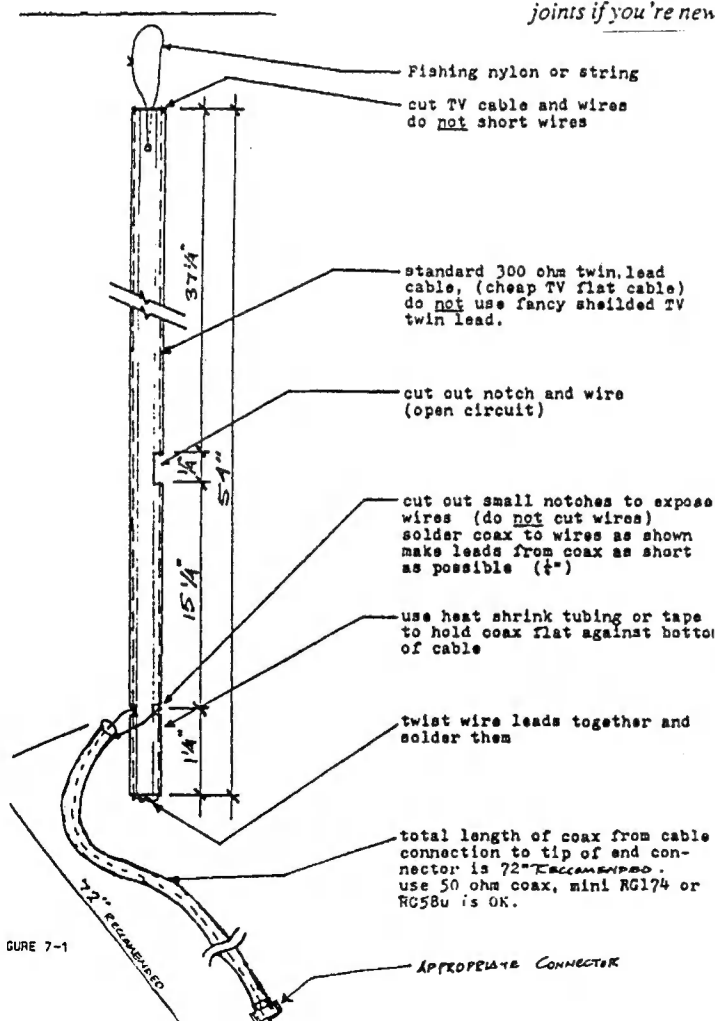


Figure 1. The Copper Cactus, and a typical Double Cactus installation.

BBS INFO



For those of you who have a computer and a modem the Crossroads Broadcast BBS, a phone Bulletin Board System located in Trafalgar, features a message area especially for the MidState Amateur Radio Club!

Also there is a dedicated file area where you will find files of special interest to the club. The MARC message area has a few messages just for the club. Here you can leave a message to any participant of the BBS, either public or private. If you have an article for the newsletter, you can upload it into the MARC files area and Mac NV9K will be able to get it.

In addition to the MARC areas there are some other Ham related message areas, including the Indianapolis wide area. We have a few Ham related files and some bulletins about the club and the repeater that will keep you informed on club activities, etc.

You get full access to the BBS on the first call. (20 minute limit on first call - after that, about an hour) The phone number is 317-878-5311. If this number is long distance for you, and you are North, East, or West of Indianapolis, then try 780-5473. This is a call forwarding number. Never use the call forwarding number unless you have to. This can give you a little more line noise. We accept callers from 300 to 14,400 baud.

The local Land line board that caters to Hams is the Southside BBS in New Whiteland. 535-9097. He has lots of Ham files. However, it is a little harder to get access there. After logging on the first time, you must mail in some info, and then he will give you access.

-Charlie N9MEW



NEW 440 BAND PLAN

A new band-plan for 440 megahertz? Why not? As more Indiana hams have jumped onto 440 repeaters, launched weather balloons and began sending live pictures through the air the allocated 440 megahertz frequencies have become a mish-mash of cluttered users and frustrated hams. As a result the Indiana repeater council is considering an all new 440 band-plan.

Council chairman, Steve Riley, WA9CWE, will address the December 20th meeting of the Indiana ATV association. The council intends to reallocate the 440 frequencies used for packet, ATV, repeaters and control links.

The ATV meeting is guaranteed to be a busy evening. The program will include a video tape travel log on various weather balloon launches across the country by Bill, WB8ELK.

John Haskell, KB9CML, will give a demonstration on amateur

satellites and Paul Bohrer, W9DUU will show video tapes and talk about the ATV involvement during the KKK rally at the Indiana state house in October.

If you happened to miss John's rain-dampened amateur satellite demonstration at the August meeting of the Mid-state ARC you may want to catch it at the ATV meeting. And of course, Paul Bohrer will be our special guest this Saturday at the November meeting of the Mid-state Amateur Radio Club.

Everyone is welcome to attend the Indiana ATV meeting December 20th at the IPALCO headquarters on Morris street. The meeting is scheduled to begin at 7:30 p.m. talk-in on the 146.76 repeater.

--NT9J

DON'T SAY "YES!"

The Federal Communications Commission is warning of a new telephone scam in which consumers are tricked into accepting long-distance charges for calls placed by con artists.

The commission says the caller claims to be an FCC inspector or representative of a long-distance company investigating calls or trouble on the line.

The caller tells the consumer that a supervisor will soon be calling, and that the consumer should just say "yes" when asked to accept the charges.

The FCC says it doesn't do business that way, and neither do phone companies.



***A man was hired to paint a church, but he discovered he had severely under-bid the job. To make up for the loss, he figured he'd just add a little water to the paint.

When he finished the job, the church looked pretty good. But after a few days, the paint started peeling off in sheets. It looked horrible! "Oh no!" he cried in guilt and embarrassment. "Now what am I going to do?"



A deep voice from above answered him: "Repaint, and thin no more!"

***Aging has a lot to do with attitude. When you're young, you're *six-and-a-half*. No one is 52-and-a-half. Then you *become* 21. But you *turn* 30. Then you *push* 40. You *reach* 50, then you *make it* to 60. You *hit* 80, but you're *just* 90. And then after 100, something funny happens. You're 104 *and-a-half*!

*** A pastor of a church loved to golf, but he never golfed on Sundays. But one Sunday morning he woke up and saw the weather was great for playing golf. The temptation overcame him and he put a notice on the door of the church saying that the sermon was canceled because he had to go out of town

on an emergency. He then drove 60 miles to a golf course in another town, so that no one in his congregation would catch him playing hooky.

As he was teeing up at the first hole, God looked down and saw what he was doing, and was displeased.

"Punish him," he ordered a nearby angel. The pastor swung his club and the ball sailed straight through the air and landed in the cup. A hole in one!



"I told you to punish him, not help him," God said sternly.

"I did as you instructed," explained the angel. "Think about it—who can he tell?"

*** One of the best things about kids is that when you talk to them, they don't pull out pictures of their parents.

*** Why are there no plaid crayons?

*** The sign in the restaurant said, "BREAKFAST AT ANY TIME." So I ordered French Toast during the Renaissance.

*** I installed a skylight in my apartment. The people who live above me are furious!

I have a microwave fireplace in my house...last night I laid down in front of the fire for the evening in two minutes.

THE OTHER WOMAN

The wife was happy and so was the groom, at least til the end of the honeymoon.

Then, alas and alack, Oh pity the wife- she discovered another in her husband's life!

He'd rush home from work and speed through the house, with no concern for his poor lonely spouse!

Alone in his room each night he will sit, as long as his sleepy eyes will permit.

His meals are prepared on a TV tray which the wife sets down, then tiptoes away.

She must not disturb with whisper or sigh the other woman or her avid guy.

His friends and relatives all feel put down, when he retreats to his sacred ground.

Many a night on bended knee the wife thanks heaven for color TV.

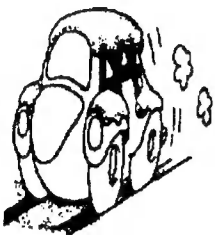
Her husband has said, "I am what I am!" So heaven help her, the nut is a ham!



BENS WEATHER TIPS

By Ben Woods Channel 8 TV

The Midwestern U.S. has already seen some blasts of arctic air from Canada and winter is still over a month away. In Indiana, getting a "white Christmas" is hard enough, yet this year we've already had a "white Halloween".



October snows usually consist of only flurries, yet on October 30th, 2.4 inches fell at the Indianapolis airport making this October the second snowiest on record. Only October of 1989 ranks ahead when a freak snowstorm dumped 9.3 inches. Thankfully, the snow this year accumulated mainly on the grass

and left the roads in fairly good shape.

Despite the "snowy" end to the month, much of October had some wonderful Indian Summer days. Indianapolis even managed an 80 degree reading on the 7th. Officially, Indianapolis averaged 51.6 degrees (3.1 below normal) and 2.25 inches of precipitation fell (0.38" below normal).

The outlook for November calls for near normal temperatures and slightly above normal precipitation for the Midwestern U.S.. Keep in mind that last November 22nd, we had an outbreak of 14 tornadoes in Indiana. Fortunately, no one was killed in those storms but damage was moderate to severe (especially in Morgan, Shelby and Marion counties).

We weren't the only ones to have tornadoes in November. In fact since 1988, more tornadoes have touched down in the U.S. in the month of November than in April or May (generally considered the heart of tornado season). Actually, this statistic only proves that tornadoes can and do occur at anytime of the year.

With such widely swinging temperatures common this time of year, it's best to keep updated on the local forecast. The only thing about the weather in November that is predictable is that it will be unpredictable!

Ben Woods Meteorologist, WISH TV

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From the

President:

On behalf of the club and the sheriff's department I would like to take this opportunity to personally thank you for all the help in the "Goblin Patrol".

Your assistance was far and above anything we could have expected. I hope we can count on your help again next year. Keep up the great work!

73. Roy N9PFZ



Mid-State Amateur Radio Club

Post Office Box 836 Franklin, In. 46131

Club Repeater: 146.835

Post Office Box 836, Franklin, In. 46131

Spark-Gap is available to non-members for \$5.00 per year.

President: Roy Barnes N9PFZ

V. President: Randy Shake KC9LC

Secretary: Marilyn Parton N9TUK

Treasurer: Mac McCarty NV9K

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